



IN THE UNITED STATES PATENT AND  
TRADEMARK OFFICE

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Applicant: William Possidento

Title: DISTILLATION DEVICE

Group Art Unit: 1764

Examiner: V Manoharan

Hon. Commissioner of  
Patents and Trademarks  
Arlington, VA. 22202

**BRIEF ON APPEAL (REVISED)**

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## **I. STATEMENT OF INTEREST.**

The real party in interest is that party identified in the caption of the brief, namely William Possidento, applicant.

## **II. RELATED APPEALS AND INTERFERENCES.**

There are no other related appeals or interferences that relate to this case and known to the applicant's legal representative which will have a direct effect or be directly affected by or have a bearing on the Board's decision in this appeal.

## **III STATUS OF CLAIMS.**

Applicant's claims 13-22 have been finally rejected by examiner's office action dated 2/9/99.

## **IV. STATUS OF AMENDMENTS AFTER FINAL.**

There are no amendments after final.

## **V. SUMMARY OF THE INVENTION.**

A distillation apparatus is claimed, the independent claims reciting an enclosed outer tube with an upper section having an indented portion to direct the liquid to a trough portion running inside the outer tube. There is a means to reduce the pressure inside said outer tube as well. See fig. 1 and element 1 especially. See also the original specification in general.

The other independent claim, 18, recites two troughs, one on each side of the outer tube. See page 5 line 1-7 of the original specification and fig 2 of the same. Dependent

claims recite a darker colored lower section; a light reflecting lower section and a tilting upper half for the outer tube. See page 5, line 23 et seq. re: reflective material and see page 6, line 35 et seq. re: parabolic shape. Reference to these in original specification. See page 5, line 34 et seq and fig. 1, item 12, both of the original spec. re: the darker colored half.

Re: pivoting halves: see preliminary amendment of 9/27/97, in particular, the passage inserted at page 5 line 21, starting on page 1 of the preliminary amendment. See also fig. 5 to accompany that amendment. See also amendment after final being filed herewith with respect to the amendment of the specification.

#### **VI. ISSUES FOR REVIEW.**

Whether claims 13-15, 17-20 and 22 are obvious over the Hay's publication or the Fisher patent in light of the Kruse or Snyder patents. All of the above patent references are of record in the case. Issues including whether the advantages that flow from the inventors use of a rigid housing have been fairly considered by the examiner. Whether the Hay's reference teaches the use of tilting the trough and thus rendering some claims obvious. Whether the use of a vacuuming forming means and the advantages that flow from its use in this invention were ever considered. Whether the prior art suggests the use of a darker color in the bottom of the apparatus and whether the idea of reflecting radiation into the apparatus is obvious.

#### **VII. GROUPING OF CLAIMS.**

Claims 13 and 18 are independent and recite the basic rigid collector device in connection with an interior trough. See fig. 1 and element 1 especially. See also the original

specification in general. Claim 18 differs from 13 in that the inner trough is really two troughs running along the sides of the outer tube. See page 5 line 1-7 of the original specification and fig 2 of the same.

Dependent claims 14 and 19 depend from each of those claims respectively and further recite reflective material and parabolic shape in the lower section of the apparatus. See page 5, line 23 et seq. re: reflective material and see page 6, line 35 et seq. re: parabolic shape. Reference to these in original specification.

Dependent claims 15 and 20 similarly depend from the independent claims and recite lower section of dark color to enhance the absorption. See page 5, line 34 et seq and fig. 1, item 12, both in the original spec. Similarly, claims 17 and 21 further recite the outer tube being constructed in two halves: an upper and a lower half that pivot with respect to one another. See preliminary amendment of 9/27/97, in particular, the passage inserted at page 5 line 21, starting on page 1 of the preliminary amendment. See also fig. 5 to accompany that amendment.

Dependent claims 14 and 19 stand or fall independently of the independent claims and are being separately argued under section D of this brief. Dependent claims 15 and 20 also stand or fall independently of the independent claims and are being separately argued under section E of this brief. Claims 17 and 21 stand with their respective independent claims.

#### **VIII ARGUMENT.**

The claims have been rejected under section 103 with regard to the Hays reference or Fisher patent in light of patents to Kruse or Snyder. All of these patents and references are of record.

**A THE RIGID CONSTRUCTION OF THE COLLECTOR AS RECITED BY THE APPLICANT, ALLOWS FOR ADVANTAGES OVER THE PRIOR ART THAT WERE NOT CONSIDERED BY THE EXAMINER, AND SUCH ADVANTAGES NEED NOT BE SEPARATELY RECITED AS THEY ARISE OUT OF THE RECITED USE OF RIGID MATERIALS.**

In both independent claims 13 and 18 an outer tube of rigid construction is claimed. The use of such rigid materials allows for the outer tube and hence the device to be built with a long length on the order of hundreds of yards or even miles. Such lengths allow for processing a greater volume of liquids and allow for a continuous processing operation.

Such a continuous process of exceeding long length trough is neither shown or nor suggested in the prior art. Moreover the examiner has not even considered such advantages in making here section 103 rejection and as such, such reasoning is on its face legally impermissible.

The prior art cited, suggests no such extreme length for the collector as applicant does nor would any such prior art be able to be constructed of such length. For example: Hay specifies that a:

"10 foot width maybe the maximum desirable for V covers, since distances greater than 5 feet from ridge to valley may permit wind flutter in the [plastic] V covers."

Hence the soft, non rigid, plastic construction materials used in the Hay designs impose limits on the length of the apparatus that may thus be constructed. Such idea teaches against the idea of creating a distillation device that can be of a vast length so as to allow for continuous fractions to be taken across a great length.

The examiner argues on the bottom of page 4 and top of page of the final action that the applicant's arguments are not commensurate with the scope of the invention. The reasoning given here is frankly absurd.

The applicant is arguing that it is the nature of the construction of his invention that permits the distillation device to be constructed as a long pipeline stretching for hundreds of miles, if need be. It is not necessary to recite the advantages of an invention if such advantages or properties arise out of the underlying construction.

The applicants' claims recite "the outer tube being of rigid construction." That is all the structure that is needed to claimed in order to argue the advantages that arise out of such a system. The advantages are that the distillation system may be constructed as a large pipeline stretching hundreds of miles, such advantage need not be recited in the claims.

One can very well argue an obviousness rejection by citing the advantages of an invention over the prior art. We point out that we are not arguing that a distillation device of hundreds of miles in length is novel in terms of structure. It is not a 102 argument.

We are perfectly entitled to argue advantages of an invention that arise out of the structure as claimed in a 103



rejection. To argue otherwise as the examiner does is ludicrous to the extreme. Advantages which would inherently flow from what was originally disclosed are entitled to consideration (if not originally mentioned) In re Zenitz 142 U.S.P.Q. 15 (CCPA 1964) Deutsche Gold und Silver v Comm'r of Pats. 251 F. Supp. 431; 148 U.S.P.Q. 323 (D.Ct. DC. 1966). Ex parte Strobels et al. 160 U.S.P.Q. 352 (POBA 1968) Ex parte Sasajima et al 212 U.S.P.Q. 103 (POBA 1981) .

We offer as further case law the notion that the burden is on the examiner to provide a basis in fact and or technical reasoning to suport the determination that the inherent characteristic necessarily flows from the teachings of the applied prior art. Ex parte Levy. 17 U.S.P.Q. 2d. 1461 (BPAI 1990) .

We submit that it is incorrect and legally improper under the law of obviousness to fail to consider the applicant's arguments regarding the advantages that arise out of his invention. Thus the examiner's remarks on their face demonstrate that she has failed to take into consideration the advantages that arise out the claimed invention and such is legally incorrect..

**B. THE EXAMINER IS ENTIRELY INCORRECT IN SUGGESTING THAT THE HAYS PUBLICATION SUGGESTS A TILTING OF THE APPLICANT'S TROUGH AS CLAIMED; AS THE REFERENCE TEACHES NO SUCH THING.**

On page of 5 of the office action the examiner claims that Hays suggests the applicant' feature of the tilted trough that runs inside the collector as claimed. In her words "The Hay's publication ...would at least be suggestive of the argued 'trough...to be tilted in one direction..." She then quotes on page 5 of the final action, a portion of page 2 of Hay to wit:

"That is Hay discloses that 'a condensate collecting trough can be suspended from the underside of the V cover...still should be slightly inclined to facilitate drainage...an underlying sloped collecting trough.'"

The examiner knowingly excludes an entire passage including the key word: "valley" from the aforesaid passage. This completely changes the meaning of this paragraph. The passage in toto reads:

"...a condensate collecting trough can be suspended from the underside of the V cover, and the TROUGH can be made heavy enough to eliminate the externally applied pipe or rod originally conceived as the weighting means. The VALLEY of a long-bay still should be slightly inclined to facilitate DRAINAGE OF RAIN or the cover should have adequately spaced holes over an underlying sloped collecting trough." [capitalization ours]

It is clear that the V cover and the valley referred to is the top of the collector and not the trough running inside the collector. This is stated by Hay on the very same page 2, column 1:

"The V cover is reported to give 10 to 15 percent greater efficiency but was said to have disadvantages in collecting dirt in the VALLEY OF THE COVER and in the movement of the pipe..."

"Valley" refers to a "V" shaped cover. The purpose of this, that Hay suggests is to incline the cover to facilitate the collection of rain. Rain comes down outside the collector. It does not rain inside the collector. In any event, it was

never stated or suggested by Hay to tilt the trough that runs inside of the collector.

No mention of tipping the trough inside has ever been suggested or stated in the prior art. Thus there cannot be an obviousness rejection on this score. The Hay reference does not show or suggest the need for the trough on the inside of the applicant's apparatus to be tilted in one direction in order to facilitate the flow of liquid through the device.

Moreover, Hay does not teach or suggest use of the continuous flow of liquid through the trough his invention is designed to collect the liquid in one place only and such does not provide for the flow of liquid. The applicant's invention by contrast tilts the trough and so allows for liquid INSIDE of the collector to flow in one direction.

It is clear that the allowing for the directional flow of liquids will allow for long lengths of collectors to be designed for with the condensate collected at one end. Such advantages arise due to the claimed tilting of the collector trough.

Thus, the examiner has deliberately and falsely excluded that passage between the words "V cover" and "still" in order to knowingly create a distortion in the record. Namely by omitting the passage that mentions the valley falsely gives the impression that the V cover is the collector and that it is the one that is tilted.

We rely on basic principles of jurisprudence for our proposition in this section. Ignoring the deliberate meaning of a reference and making up an interpretation of such reference in order to sustain a rejection is an error at law, and arbitrary and capricious and not entitled to agency

deference. See Agency law, generally and its application to federal agencies.

We submit that the examiner has not made out any case for obviousness in regardless to the tilting of the applicant's trough that runs inside the collector. We also state for the record that we are quite dismayed by this behavior.

**C. INDEPENDENT CLAIMS 13 AND 18 BOTH RECITE THE USE OF A MEANS TO REDUCE PRESSURE FROM INSIDE THE OUTER TUBE; THIS FEATURE IN COMBINATION WITH THE RIGID NATURE OF THE OUTER TUBE RECITED IN SUCH CLAIMS PROVIDES A FEATURE THAT IS NOT SHOWN OR SUGGESTED IN THE PRIOR ART AND RENDERS ALL OF THE CLAIMS NON OBVIOUS.**

The Hay's reference, of record, does not show or suggest the use of a means to reduce the pressure in connection with the main chamber (or "outer tube" as referred to in the applicant's claims). In conformance with that notion, the applicant also claims making the outer tube of a rigid construction which of course permits such a vacuum to be created.

The construction of the primary reference, Hay's devices, teach against the idea of using a vacuum or lowered pressure means as the billowy or flimsy material would make it impossible to lower the pressure inside of his designs without impacting on the structural integrity of the outer material. Such material would interfere with the liquid inside. Nor does any of the prior art suggest or teach the idea of lowering the inside pressure of this sort of trough collector.

There is no mention of these elements of the claimed invention in the examiner's rejection and so she appears to have failed to consider such elements in her rejection and

thus improperly rejected the application without regard to the advantages that flow from the invention.

See in particular the language in both independent claims, where the applicant distinctly claims this portion of his invention, viz:

"...having a means to reduce the pressure inside said outer tube."

As well as the following language in the claims:

"...said outer tube being of rigid construction..."

The combination of such structural elements, thus creates an operating system that can be effectively made a vacuum and wherein the walls of the device will not collapse upon such vacuum being formed. Such construction is neither shown nor suggested in the prior art.

The burden is on the examiner to provide a basis in fact and or technical reasoning to suport the determination that the inherent characteristic necessarily flows from the teachings of the applied prior art. Ex parte Levy. 17 U.S.P.Q. 2d. 1461 (BPAI 1990).

Note also that The burden is on the PTO to establish a prima facie case of obviousness. In re Warner et al. 379 F. 2d 1011; 154 U.S.P.Q. 173 (CCPA.1967)

**D. NONE OF THE PRIOR ART SHOWS OR SUGGESTS THE IDEA OF DIRECTING THE RADIATION ONTO THE LIQUID BEING CARRIED IN THE LOWER SECTION OF THE OUTER TUBE AS RECITED IN DEPENDENT CLAIMS 14 AND 19.**

Nor does any of the prior art show the idea of focusing the radiation onto the liquid being carried in the lower section of the outer tube. The Fisher patent, a reference of record, does not show the idea of focusing light on the lower section of the tube or apparatus in order to heat liquid in the lower section so that it can then be collected (after evaporation and condensation) in the trough above the lower section.

In the Fisher patent, the trough is shown as one tube only and there is no provision for separate holding of liquid in a lower section and hence there is no teaching of the idea of heating the liquid in a separate lower section. Such construction as the applicant's allows the liquid in the lower section to be heated while the cooled distillate is collected in a separate trough.

The examiner has not attempted to make an argument in this regard in the last office action. Thus, those advantages that flow from this construction have not been fairly evaluated by the examiner in making her determination of obviousness.

Advantages which would inherently flow from what was originally disclosed are entitled to consideration (if not originally mentioned) In re Zenitz 142 U.S.P.Q. 15 (CCPA 1964) Deutsche Gold und Silver v Comm'r of Pats. 251 F. Supp. 431; 148 U.S.P.Q. 323 (D.Ct. DC. 1966). Ex parte Strobel et al. 160 U.S.P.Q. 352 (POBA 1968) Ex parte Sasajima et al 212 U.S.P.Q. 103 (POBA 1981). The burden is on the examiner to provide a basis in fact and or technical reasoning to suport the determination that the inherent characteristic necessarily flows from the teachings of the

applied prior art. Ex parte Levy. 17 U.S.P.Q. 2d. 1461 (BPAI 1990).

The use of the small pipe in Fisher with no other collector does not allow for expansion of the liquid in a separate section away from the trough collector. And such construction would permit the distillate to be heated as well. The applicant's heating of the liquid separate from the distillate would be more efficient than anything taught in the prior art. Such construction as the applicant's allows the non distilled portion of the water to be heated without heating the fraction that has already been distilled and collected in the trough. Such advantages flow from the claimed construction.

See in particular the language in claims 14 and 19 that particularly points out and claims the subject matter sought to be patented:

"...said lower section is comprised of a material that is reflective of solar radiation and said lower section having a parabolic shape and so disposed to reflect solar radiation upward." (claims 14 and 19)

**E. BY THE SAME TOKEN, NONE OF THE PRIOR ART SHOWS OR SUGGESTS THE IDEA OF CREATING THE LOWER SECTION OF A DARKER COLOR IN ORDER TO ABSORB MORE LIGHT AND HEAT THE APPARATUS FURTHER AS RECITED IN DEPENDENT CLAIMS 15 AND 20.**

Again, there has been no citation in the record that would show or suggest that this limitation, of the claims 15 and 20, is taught in the prior art. Again, to reject these claims without considering the advantages that flow from the claimed elements is incorrect under the law of obviousness.

See in particular the wording in claims 15 and 20:

"...wherein said lower section is comprised of material having a dark color so as to enhance the absorption of the solar radiation."

Which wording particular points out and claims the subject matter sought to be patented. There is no suggestion in the prior art that indicates the preferability or desirability of using a material of a darker color in the lower section of the apparatus in order to enhance the absorption of solar radiation. Such a construction with a darker color, allows for more heat to be absorbed by the outer tube than would otherwise be possible were it made of clear material.

Again, see for example: In re Laskowski, 10 U.S.P.Q. 2d 1397 (CAFC 1989). "Applicant's band saw...is not obvious in view of prior patent...since prior art does not suggest applicant's modification to primary reference or provide any reason or motivation for making such modification."

Also the mere fact that references can be combined does not render the combination obvious unless the prior art suggests



the desirablity of the combination. Berghauser v Dann Commr of Pats, 204 U.S.P.Q. 393 (D.C. D.C. 1979).

**IX. SUMMARY AND RELIEF REQUESTED:**

It is requested that the outstanding rejections of claims on the merits be overcome and the case be remanded to the examiner for a Notice of Allowance and/or further proceedings in accordance with such decision.

**X. Appendix: Pending claims:**

Claims 13-22 were added by amendment of 11/10/98. **Note:** that claims 16 and 18 have been deleted as they are in condition for allowance as per the examiner's statements in the advisory action of 10/28/99, and are the subject of a separate continuation application being filed at this time.

13. An improved distillation apparatus for use with solar radiation; said apparatus comprising: an enclosed outer tube adapted for the flow of liquids, said outer tube having an inner surface and an outer surface and having a central axis running the length of said tube, said outer tube being of rigid construction and having a central plain running parallel to said central axis so as to bisect said outer tube into an upper section and a lower section; said lower section adapted to hold liquid in said outer tube; said upper section having an indented portion so as to form a "v" shaped section above said central axis of said outer tube, a trough portion in connection with the inner surface of said tube and running parallel to said central axis, said trough portion having a curved surface so as to collect liquids that condense on said upper section, said outer tube being of substantially air tight construction and having a means to reduce the pressure inside said outer tube; said trough portion having a midline bisecting the length of said trough and said midline being oriented at an angle with respect to horizontal so as to urge the flow of liquid in one direction.

14. The apparatus of claim 13 wherein said lower section is comprised of a material that is reflective of solar radiation and said lower section having a parabolic shape and so disposed to reflect solar radiation upward in the direction of said liquid in said lower section.

15. The apparatus of claim 13 wherein said lower section is comprised of material having a dark color so as to enhance the absorption of the solar radiation.

17. The apparatus of claim 13 wherein said outer tube is divided into two halves along a line parallel to said central axis, each of said halves in connection with a means for hinging said halves so as to allow said halves to pivot with respect to one another.

18. An improved distillation apparatus for use with solar radiation; said apparatus comprising: an enclosed outer tube adapted for the flow of liquids, said outer tube having an inner surface and an outer surface and having a central axis running the length of said tube, said outer tube being of rigid construction and having a central plain running parallel to said central axis so as to bisect said outer tube into an upper section and a lower section; said lower section adapted to hold liquid in said outer tube; said outer tube being of substantially air tight construction and having a means to reduce the pressure inside said outer tube; said outer tube having pair of trough portions running parallel to said central axis and each in connection with said inner surface of said outer tube, said trough portions located on opposite sides of said outer tube and of curved surface so as to collect liquids that condense on said upper section, said upper section having at least two indented portions and each of said indented portions disposed so that at least one said indented portion is above at least one of said trough portions, each of said trough portions having a midline bisecting the length of said troughs and said midlines being oriented at an angle with respect to horizontal so as to urge the flow of liquid in said troughs in one direction.

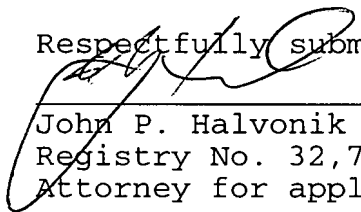
19. The apparatus of claim 18 wherein said lower section is comprised of a material that is reflective of solar radiation

and said lower section having a parabolic shape and so disposed to reflect solar radiation upward in the direction of said liquid in said lower section.

20. The apparatus of claim 18 wherein said lower section is comprised of material having a dark color so as to enhance the absorption of the solar radiation.

22. The apparatus of claim 18 wherein said outer tube is divided into two halves along a line parallel to said central axis, each of said halves in connection with a means for hinging said halves so as to allow said halves to pivot with respect to one another.

Respectfully submitted,



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